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HEADQUARTERS STRATEGIC AIR COMMAND  
UNITED STATES AIR FORCE  
OFFUTT AIR FORCE BASE, NEBRASKA

7 OCT 1958

SUBJECT: Aircraft Artificial Contrail Generator

TO: Director of Requirements  
Headquarters, USAF  
Washington 25, D. C.

1. Reference your letter subject as above, 25 August 58, this headquarters indorses the need for an operational requirement for the development of a device to reduce the probability of mid-air collisions for both high and low altitude operations. The requirement for the development of an aircraft artificial contrail generator could be a means of approaching the mid-air collision problem.

2. In addition to meeting the proposed requirements as outlined in paragraph 3 of the referenced letter, the following additional guidelines and objectives should be considered:

a. The contrail should persist for a minimum of one minute with a maximum of three to five minutes. This would provide a contrail of approximately seven miles in length for most jet aircraft, which would greatly aid in the determination of the course and altitude of an aircraft.

b. The contrail should be continuous. A broken contrail would allow the aircraft to precede the contrail by too great a distance for immediate detection.

c. Development considerations should be given for a chemical additive that is luminous so that the contrail may be visible during the hours of darkness.

d. The device should not penalize the aircraft range capabilities. This factor is most critical for the SAC alert force aircraft.